UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,025	02/04/2004	Brad A. Armstrong	F2811	6101

88228 7590 09/07/2010
Fogarty, LLC
P.O. Box 703695
Dallas, TX 75370-3695

EXAMINER	
BODDIE, WILLIAM	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
09/07/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@fogartyip.com
fogartyip@gmail.com
docket@fogartyip.com

Office Action Summary	Application No.	Applicant(s)	
	10/773,025	ARMSTRONG, BRAD A.	
	Examiner	Art Unit	
	WILLIAM L. BODDIE	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/19/10; 4/29/10 x 2*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In an amendment dated, July 27th, 2010 the Applicant amended claims 9-10, 12-14 and added new claims 16-19. Currently claims 9-19 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 27th, 2010 has been entered.

Response to Amendment

3. The declaration under 37 CFR 1.131 filed July 27th, 2010 is insufficient to overcome the rejection of claims 9-15 based upon Autry, Hall and Schuster as set forth in the last Office action because: there are minor informalities with the declaration.

Section 715.07 details the necessary facts that must be asserted when submitting a declaration under 37 CFR 1.131. One such fact is the conception and completion of invention *in this country or in a NAFTA or WTO member country*. Examination of the submitted declaration did not reveal any assertion by the Applicant that the invention was conceived and completed in the USA or any other NAFTA/WTO country.

Additionally, there is no assertion by the Applicant that the invention was reduced to practice prior to the date of the Autry, Hall and Schuster references. The Applicant has merely states that *conception* alone occurred prior to the date of the references.

4. These appear to be minor informalities which are easily remedied by inclusion of assertions that the invention was conceived and completed within the USA or other NAFTA/WTO country and a clear statement that the invention was also reduced to practice prior to the date of the references.

5. As the application currently stands, however, the Autry, Hall and Schuster references are still seen as proper prior art and the rejections are maintained. However in anticipation that the minor informalities of the declaration can be overcome, a new rejection in view of newly cited art has been made below.

6. If the Applicant has any questions regarding the informalities of the declaration or the newly cited prior art, the Applicant is always invited to contact the Examiner for further clarification.

Response to Arguments

7. Applicant's arguments with respect to claims 9-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 9, 11-12, 14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Copper et al. (US 5,485,171) in view of Imai et al. (US 5,521,617) and further in view of Elliott (US 5,291,325).

With respect to claim 9, Copper discloses, an image controller (3 in fig. 1) allowing control of an image generation device (1 in fig. 1) capable of creating at least two-dimensional imagery (col. 5, lines 35-64), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the two-dimensional imagery (12 in fig. 2; col. 7, lines 41-47);

a circuit board having an upper surface and a lower surface (top and bottom of board supporting 22 in fig. 2, for example)

a proportional sensor, the proportional sensor indicates manipulation of the single input member (fig. 3; col. 2, lines 48-55);

one additional sensor (18 in fig. 2) located on the lower surface of the circuit board (board in fig. 2);

one button sensor (20 in fig. 2) located on the upper surface of the circuit board controls an ON/OFF function (col. 6, lines 54-57);

a transmitter (32 and 22 in fig. 2) allowing wireless communication of information from the controller to the image generation device, the information is useful to control the image generation device (col. 6, lines 54-67); and a battery compartment adapted to hold a battery for powering the image controller (28 in fig. 2).

Copper does not expressly disclose control of three-dimensional imagery or a secondary input member.

Imai discloses, an image controller (fig. 16) allowing control of an image generation device (14-15 in fig. 1) capable of creating three-dimensional imagery (fig. 1), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the three-dimensional imagery (trackball 21 is capable of being manipulated in six degrees of freedom and controls movement; fig. 3);

a circuit board (31 in fig. 4) having an upper surface (surface containing sensors 33, 44 in fig. 4) and a lower surface (bottom of 31 in fig. 4);

a sensor located on the circuit board, the sensor indicates manipulation of the single input member (41-44 in fig. 4, detects rotation of the trackball);

a secondary input member (22 in fig. 4) capable of being controlled by the human hand to effect bidirectional movement of the three-dimensional imagery on at least one axis independent of the control of three-dimensional imagery by the single input member (the ring, 22, effects movement up/down in the z axis; fig. 3);

two additional sensors (the two optical sensors 33 in fig. 3) located on the upper surface of the circuit board (33 in fig. 4), the two additional sensors indicate the bidirectional movement of the secondary input member (col. 6, lines 50-58);

Copper and Imai are analogous art because they are both from the same field of endeavor namely image controller device design.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the secondary input member of Imai around the single input member of Copper and locate the sensors on the circuit board.

The motivation for doing so would have been for the well-known benefits of increasing the functionality, displaying special 3D images and decreasing cost by locating the sensors on a single circuit board (Imai; col. 1, lines 15-22).

Neither Copper nor Imai expressly disclose button sensors to control a volume function.

Elliott discloses, an image controller allowing control of an image generation device, the image controller comprising:

two button sensors (14 in fig. 1a-b) located on the upper surface a circuit board (24 in figs. 4-5) control at least a volume function (figs. 1a-b).

Copper, Imai and Elliott are analogous art because they are all from the same field of endeavor namely design of image controllers for control of an image generation device.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the button sensors of Elliott on the upper surface of the Coppery/Imai circuit board.

The motivation for doing so would have been for the well-known benefit of increasing the functionality of the device and allowing it to also control the volume of the image generation device.

With respect to claim 12, Copper discloses, an image controller (3 in fig. 1) allowing control of an image generation device (1 in fig. 1), the image generation device capable of creating at least two-dimensional imagery (col. 5, lines 35-64), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the two-dimensional imagery (12 in fig. 2; col. 7, lines 41-47);

a circuit board (board supporting 22 in fig. 2, for example)

a proportional sensor communicates with the circuit board (160 connects to 22 which is on the board; see fig. 3), the proportional sensor indicates manipulation of the single input member (fig. 3; col. 2, lines 48-55);

one button sensor (20 in fig. 2) communicates with the circuit board to control an ON/OFF function (col. 6, lines 54-57);

a transmitter (32 and 22 in fig. 2) allowing wireless communication of information from the controller to the image generation device (col. 6, lines 54-67); and

a battery compartment adapted to hold a battery for powering the image controller (28 in fig. 2).

Copper does not expressly disclose control of three-dimensional imagery or a secondary input member.

Imai discloses, an image controller (fig. 16) allowing control of an image generation device (14-15 in fig. 1) capable of creating three-dimensional imagery (fig. 1), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the three-dimensional imagery (trackball 21 is capable of being manipulated in six degrees of freedom and controls movement; fig. 3);

a circuit board (31 in fig. 4);

a secondary input member (22 in fig. 4) capable of being controlled by the human hand to effect bidirectional control of imagery independent of the control of the three-dimensional imagery by the single input member (the ring, 22, effects movement up/down in the z axis; fig. 3);

two secondary input member sensors (the two optical sensors 33 in fig. 3) communicate with the circuit board (33 in fig. 4), the two secondary input member sensors indicate the bidirectional movement of the secondary input member (col. 6, lines 50-58);

Copper and Imai are analogous art because they are both from the same field of endeavor namely image controller device design.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the secondary input member of Imai around the single input member of Copper and locate the sensors on the circuit board.

The motivation for doing so would have been for the well-known benefits of increasing the functionality, displaying special 3D images and decreasing cost by locating the sensors on a single circuit board (Imai; col. 1, lines 15-22).

Neither Copper nor Imai expressly disclose button sensors to control a volume function.

Elliott discloses, an image controller allowing control of an image generation device, the image controller comprising:

two button sensors (14 in fig. 1a-b) communicate with a circuit board (24 in figs. 4-5) to control at least a volume function (figs. 1a-b).

Copper, Imai and Elliott are analogous art because they are all from the same field of endeavor namely design of image controllers for control of an image generation device.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the button sensors of Elliott on the upper surface of the Copper/Imai circuit board.

The motivation for doing so would have been for the well-known benefit of increasing the functionality of the device and allowing it to also control the volume of the image generation device.

With respect to claims 11 and 14, Copper, Imai and Elliott disclose the image controller of claims 9 and 12 (see above).

Elliott further discloses two button sensors located on the upper surface of the circuit board control channel switching (14 in fig. 1a-b).

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the channel button sensors of Elliott on the upper surface of the Copper/Imai circuit board.

The motivation for doing so would have been for the well-known benefit of increasing the functionality of the device and allowing it to also control the channel of the image generation device.

With respect to claims 16-18, Copper, Imai and Elliott disclose the image controller of claims 9 and 11-12 (see above).

Copper further discloses, wherein the single input member is manipulated relative to a reference member (absent limitations further defining the reference member, the single input member of Copper is seen as being manipulated relative to the image generation device, 1 in fig. 1, for example).

10. Claims 10, 13, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Copper et al. (US 5,485,171) in view of Imai et al. (US 5,521,617) and further in view of Elliott (US 5,291,325) and Cox (US 4,719,538).

With respect to claims 10 and 13, Copper, Imai and Elliott disclose the image controller of claims 9 and 12 (see above).

Neither Copper, Imai nor Elliott disclose that the proportional sensor is a capacitive type.

Cox discloses, proportional sensors which are of a capacitive type (col. 2, lines 63-69)

Cox, Copper, Imai and Elliott are analogous art because they are all from the same field of endeavor namely directional sensors.

At the time of the invention it would have been obvious to one of ordinary skill in the art to replace the resistive sensors of Copper with the capacitive accelerometers of Cox.

The motivation for doing so would have been to provide simplified construction and lower costs (Cox; col. 2, lines 23-27).

With respect to claim 15, Copper, Imai, Elliott and Cox disclose the image controller of claim 13 (see above).

Copper further discloses, a second proportional sensor (X axis strip) indicating rotation of the single input member (the input member "rocks" col. 8, lines 34-37; such rocking would result in a rotation about the pivot).

With respect to claim 19, Copper, Imai, Cox and Elliott disclose the image controller of claims 9 and 11-12 (see above).

Copper further discloses, wherein the single input member is manipulated relative to a reference member (absent limitations further defining the reference member, the single input member of Copper is seen as being manipulated relative to the image generation device, 1 in fig. 1, for example).

PREVIOUSLY PROVIDED REJECTIONS

11. Claims 9, 11-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Autry et al. (US 5,724,106) in view of Hall et al. (US 5,703,623).

With respect to claim 9, Autry discloses, an image controller (124 in fig. 1) allowing control of an image generation device (118 -122 in fig. 1) capable of creating at least two-dimensional imagery (fig. 14a), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand (the controller is wireless and seems clearly capable of being manipulated in six DOF);

a circuit board (plane in fig. 9b) having an upper surface (surface containing the trackball 910 in fig. 9b) and a lower surface (bottom of plane fig. 9b, which responds to trigger 913)

a secondary input member (910 in fig. 9b) capable of being controlled by the human hand to effect bidirectional movement of the two-dimensional imagery on at least one axis (col. 11, lines 25-29);

two additional sensors (X and Y axis sensors) located on the upper surface of the circuit board, the two additional sensors indicate the bidirectional movement of the secondary input member (col. 11, lines 25-29);

one additional sensor located on the lower surface of the circuit board (sensor associated with trigger 913 in fig. 9b);

two button sensors located on the upper surface of the circuit board control at least a volume function (918 in fig. 9a; col. 12, lines 5-7);

one button sensor located on the upper surface of the circuit board (914 in fig. 9a) controls an ON/OFF function (col. 12, lines 1-2);

a transmitter allowing wireless communication of information from the controller to the image generation device, the information is useful to control the image generation device (932 in fig. 9a; col. 12, lines 24-31); and

a battery compartment adapted to hold a battery for powering the image controller (936 in fig. 9b; col. 12, lines 31-33).

Autry does not expressly disclose three-dimensional imagery creation nor a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the three-dimensional imagery in six degrees of freedom.

Hall discloses, an image controller (13 in fig. 1) allowing control of an image generation device (12 in fig. 1) capable of creating three-dimensional imagery (col. 1, lines 34-46), the image controller comprising:

a single input member (1 in fig. 2) capable of being manipulated in six degrees of freedom by a human hand (device is clearly capable of being manipulated in six degrees of freedom by a human hand) to control movement of the three-dimensional imagery in six degrees of freedom (col. 6, lines 42-51);

a circuit board having an upper surface and a lower surface (1' in fig. 2);

a first proportional sensor (9 in figs. 2-3a) located on the upper surface of the circuit board (1' in figs. 2-3a), the first proportional sensor indicates manipulation of the single input member (col. 7, lines 11-14)

a second proportional sensor (5 in figs. 2-3a) indicating rotation of the single input member (col. 7, lines 3-9).

Hall and Autry are analogous art because they are both from the same field of endeavor namely television remote controllers.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the three-dimensional imagery and three-dimensional movement sensors taught by Hall in the device of Autry.

The motivation for doing so would have been low manufacturing cost and to meet future 3D multimedia applications (Hall; col. 1, lines 34-43).

With respect to claims 11 and 14, Autry and Hall disclose the image controller of claims 9 and 12 (see above).

Autry further discloses two button sensors located on the upper surface of the circuit board control channel switching (916 in fig. 9a; col. 12, lines 3-4).

With respect to claim 12, Autry discloses, an image controller (124 in fig. 1) allowing control of an image generation device (118 -122 in fig. 1) capable of creating at least two-dimensional imagery (fig. 14a), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand (the controller is wireless and seems clearly capable of being manipulated in six DOF);

a circuit board (plane in fig. 9b);

a secondary input member (910 in fig. 9b) capable of being controlled by the human hand to effect bidirectional movement of the two-dimensional imagery on at least one axis (col. 11, lines 25-29);

two additional sensors (X and Y axis sensors) located on the circuit board, the two additional sensors indicate the bidirectional movement of the secondary input member (col. 11, lines 25-29);

two button sensors located on the circuit board control at least a volume function (918 in fig. 9a; col. 12, lines 5-7);

one button sensor located on the circuit board (914 in fig. 9a) controls an ON/OFF function (col. 12, lines 1-2);

a transmitter allowing wireless communication of information from the controller to the image generation device, the information is useful to control the image generation device (932 in fig. 9a; col. 12, lines 24-31); and

a battery compartment adapted to hold a battery for powering the image controller (936 in fig. 9b; col. 12, lines 31-33).

Autry does not expressly disclose three-dimensional imagery creation nor a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the three-dimensional imagery in six degrees of freedom.

Hall discloses, an image controller (13 in fig. 1) allowing control of an image generation device (12 in fig. 1) capable of creating three-dimensional imagery (col. 1, lines 34-46), the image controller comprising:

a single input member (1 in fig. 2) capable of being manipulated in six degrees of freedom by a human hand (device is clearly capable of being manipulated in six degrees of freedom by a human hand) to control movement of the three-dimensional imagery in six degrees of freedom (col. 6, lines 42-51);

a circuit board (1' in fig. 2);

a first proportional sensor (9 in figs. 2-3a) located on the circuit board (1' in figs. 2-3a), the first proportional sensor indicates manipulation of the single input member (col. 7, lines 11-14).

Hall and Autry are analogous art because they are both from the same field of endeavor namely television remote controllers.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the three-dimensional imagery and three-dimensional movement sensors taught by Hall in the device of Autry.

The motivation for doing so would have been low manufacturing cost and to meet future 3D multimedia applications (Hall; col. 1, lines 34-43).

12. Claims 10, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Autry et al. (US 5,724,106) in view of Hall et al. (US 5,703,623) and further in view of Schuster et al. (5,623,099).

With respect to claims 10 and 13, Hall and Autry disclose the image controller of claims 9 and 12 (see above).

Hall discloses that the proportional sensor is a piezoelectric sensor (col. 9, lines 19-20).

Neither Hall nor Autry disclose that the proportional sensor is a capacitive type.

Schuster discloses, proportional sensors which are of a capacitive type (col. 1, lines 42-50)

Schuster, Hall and Autry are analogous art because they are all from the same field of endeavor namely directional sensors.

At the time of the invention it would have been obvious to one of ordinary skill in the art to replace the piezoelectric sensors of Hall with the capacitive accelerometers of Schuster.

The motivation for doing so would have been to overcome the very high input impedance necessary for piezoelectric sensors and provide a sensor more resistive to electrostatic interference (Schuster; col. 1, lines 29-50).

With respect to claim 15, Autry, Schuster and Hall disclose the image controller of claim 13 (see above).

Neither Schuster nor Autry expressly disclose a second proportional sensor indicating rotation of the single input member (5 in figs. 2-3a; col. 7, lines 1-9).

Hall further discloses a second proportional sensor indicating rotation of the single input member (5 in figs. 2-3a; col. 7, lines 1-9).

Schuster, Hall and Autry are analogous art because they are all from the same field of endeavor namely directional sensors.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the three-dimensional imagery and three-dimensional movement sensors taught by Hall in the device of Autry.

The motivation for doing so would have been low manufacturing cost and to meet future 3D multimedia applications (Hall; col. 1, lines 34-43).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM L. BODDIE whose telephone number is (571)272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William L Boddie/
Examiner, Art Unit 2629
9/2/2010